ABSTRACT

A digital communication device includes: a modulator having encoding means for converting two-dimensional digital information signal into a three-dimensional signal and phase modulation means for modifying the carrier phase in according to the three-dimensional signal; and a demodulator having phase demodulation means for detecting information on the three-dimensional signal from the received phase-modulated wave and demodulation means for deciding the two-dimensional digital information from the information on the three-dimensional signal. The digital communication device has a bit error ratio and an occupied radio band width equivalent to a digital communication device using the conventional QPSK or $\pi/4$ shift QPSK and the error correction method and greatly improves the amplitude fluctuation. Moreover, the digital communication device can transmit a signal with a narrower occupied frequency band width while maintaining the same constant envelope characteristic as the GMSK using the conventional error correction code.